2/10/16 ROUGH ACCOUNTING FOR HYPOTHETICAL NJ RATE BASED PROGRAM (IN 2030 BASED ON 2012 ELECTRIC GENERATION)

A. ERC NEEDS - NJ Emission Rate Credit (ERC) needs in 2030, if CPP regulated units overall generation mix and MWhr amount is the same as 2012.

Boiler Units (coal, oil, gas)	1 to 4	(2.1 million in 2012)
Natural Gas combined cycle units	8 to 9	(8.5 million if no CHP, 75% for under construction units)
TOTAL NEEDS ESTIMATE	9 to 13	(11 million ERCs best estimate)

B. ERC GENERATION - Potential annual ERC generation amounts in 2030 (not including ERC banking between 2022 and 2030, or any bonus ERCs from Clean Energy Incentive Program)

Gas Shift ERCs	2 to 4 million	(3.6 million at 55% and 3.9 at 75% for under construction units; 2.1 million can be used for NJ 2012 coal use amount to comply with CPP)
Renewable energy ERCs	0 to 12 million	(12.0 million upper end from NJ 24% RPS requirement for RE, not including 9% achieved by pre 2013 renewable projects; 2.4 million if 80% out of state REC RE not available; 0 if no REC RE can be ERC RE.)
Energy efficiency ERCs	3 to 7 million	(Low end based on 2014 EE; 6.5 EPA RIA IPM projections; 7.0 Mike Winka estimate.)
CHP ERCs (1424 MW)	1 to 3 million	(2.1 million based on 1500 MW goal in EMP, not including about 100 MW of pre 2013 CHP progress towards that goal)
TOTAL GENERATION ESTIMATE	6 to 26	ERCs generated in 2030

C. ERC BALANCE: -3 to 13 million ERCs

D. UNCERTAINTIES AND FOOTNOTES (see page 2)

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1. Gas shift ERC provisions are proposed; final EPA rule expected mid-2016.
2. NJ RPS program depends on out of state renewables. EPA proposed trading rules may require that ERCs from mass based states be obtained with a power purchase agreement. Not all NJ RECs may qualify as ERCs, depending on final EPA trading rules. No RECs may qualify as ERCs since RECs are regulated at load serving level and CPP regulates the wholesale power plant level.
3. NJ energy efficiency program provides funding incentive; does not mandate a specific amount of EE. Accounting for EE under CPP has not been finalized by EPA.
4. Combined heat and power (CHP) progress has been slow, with about 100 MW achieved before 2013, and the full 1500 MW goal in the NJ Energy Master Plan (EMP) may not be achieved by 2030.
5. Credit for useful heat generated by facilities with CHP may substantially reduce the amount of ERCs required for facilities with CHP, but some of these facilities have lost their steam customers.
6. ERC needs assumes the three NGCC facilities under construction in 2012 will operate at 75% annual capacity based on experience with one facility.
7. New facilities not regulated under 111(d) could reduce the operation of existing facilities, reducing the amount of ERCs required.
8. Shutdown of regulated facilities (5 out of 24 have announced plans to shut down) could reduce the amount of ERCs required somewhat. These 5 would reduce electric generation by less than 1 million MW hours.
9. Shutdown of non-regulated electric generation facilities, such as the 600MW Oyster Creek Nuclear Power Plant, could increase the operation of existing facilities, increasing the amount of ERCs required.
10. Changes in imports and exports of electricity from and to other states will likely increase the amount of ERCs required. One EMP goal is to reduce imports of electricity. Net electricity imports have been reduced from 36% to 9%.
11. Increased use of electric vehicles could increase electric demand.